THE GRAY SHEET

Computer Industry

REPORT

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THE GRAY SHEET

IDC's forecasts of IT opportunities

Vol. 34, No. 5-6 IDC #16952 | June 30, 1999 | Molly Upton, Editor

Small Business Isn't Small Potatoes

In This Issue:

Small Business Isn't Small Potatoes . . .1

Figure 1: Stairway to e-business 3

Figure 2: U.S. Small Businesses by Number of Employees, 1999 3

Attractive IT Market 4

Internet Usage 4

Figure 3: IT Shipments to U.S. Small Businesses by Technology, 1999 4

Communications 5

Figure 4: Internet Access by U.S. Small Businesses with PCs, 1997–2002 5

Home Office Market 6

Figure 5: U.S. Income-Generating Home Offices, 1997–2002 6

The New IBM: A Look Under the Hood 7

Figure 6: e-business Requires Integration 7

Figure 7: Application Framework Deployment Architecture 8

Two Central Themes 9

Future Themes 10

Bandwidth Battle 11

Internet Insider 13

Viral Marketing: Scheme or Meme? 12

Common Currencies 12

Furniture.com Feels at Home on the Web 13

Internet Spending: Who Is and Who Will Be Calling the Shots? 13

Dressed for Success in Europe 13

Ignore Asia/Pacific Localization at Your Own Risk 14

IDC

Why are very large companies, such as IBM, devoting time and effort to court small businesses? Small businesses in the United States have attractive demographic characteristics and represent a sizable share of various IT markets. In addition, they are eager to enter the world of ecommerce. Preliminary results from IDC's Technology Integration Panel Study (TIPS) show 36% of small companies consider ebusiness their highest priority for IT.

The top-priority business issue mentioned by one-third of small businesses is exploiting markets more effectively. The same topic was a top priority for less than one-quarter of midsize businesses and for 15% of large companies.

Among the recent ploys by some of the major IT players:

- IBM bought Whistle Communications, maker of a box that connects multiple PCs to a single phone line and ISP. IBM also offers a range of products and services.
- Like IBM, several vendors have dedicated small business sites to providing a wealth of information designed to assist and engage the small business.
- IBM isn't ceding the application service provider (ASP) market without a fight and has targeted offerings for the small and medium-sized businesses through agreements between IBM Global Services and Great Plains, SalesLogix, and Ultimate Software. The services entail third-party finance packages with leases to purchase conversion options. The twist is that the systems can be implemented in either the client site or the IBM hosted site.

The business models are changing. Encanto, which offers a bundled hardware/ecommerce/services package, now seems to have adopted the cell phone business model, offering a free e.go server when one signs up for a two-year InstantConnect Internet connection service, priced at $69.95 a month.

THE GRAY SHEET

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The expanding needs of small businesses are tempting Internet services providers (ISPs) to offer value-added features such as email and other collaborative software.

IBM is trying to meet the spectrum of needs from small businesses, from Internet access through electronic applications. In the range of Internet usage by small businesses, IBM sees quite a sharp reduction in the percentage of small businesses that actually use the Internet for more than research (see Figure 1). For instance, in North America, among the 7.5 to 8 million businesses outside the home with fewer than 50 employees, 3.5 million are on the Web, but only 100,000 are using the Web for advanced applications, according to IBM.

In order to satiate the need of the majority for email with multiple PC connections to the Internet, IBM acquired Whistle Communications, which makes a single-purpose box that enables multiple PCs to share an Internet line, thereby alleviating the need for multiple phone lines and ISP accounts. The Whistle box also enables the small business to have its own domain name and email. In addition, IBM sells the Top Page Web page software creator for $59.95 and offers a $24.95 flat fee for Web hosting. The monthly fee for ecommerce along with the home page creator is $30 for 50 catalog items, and $200 a month for up to 500 items.

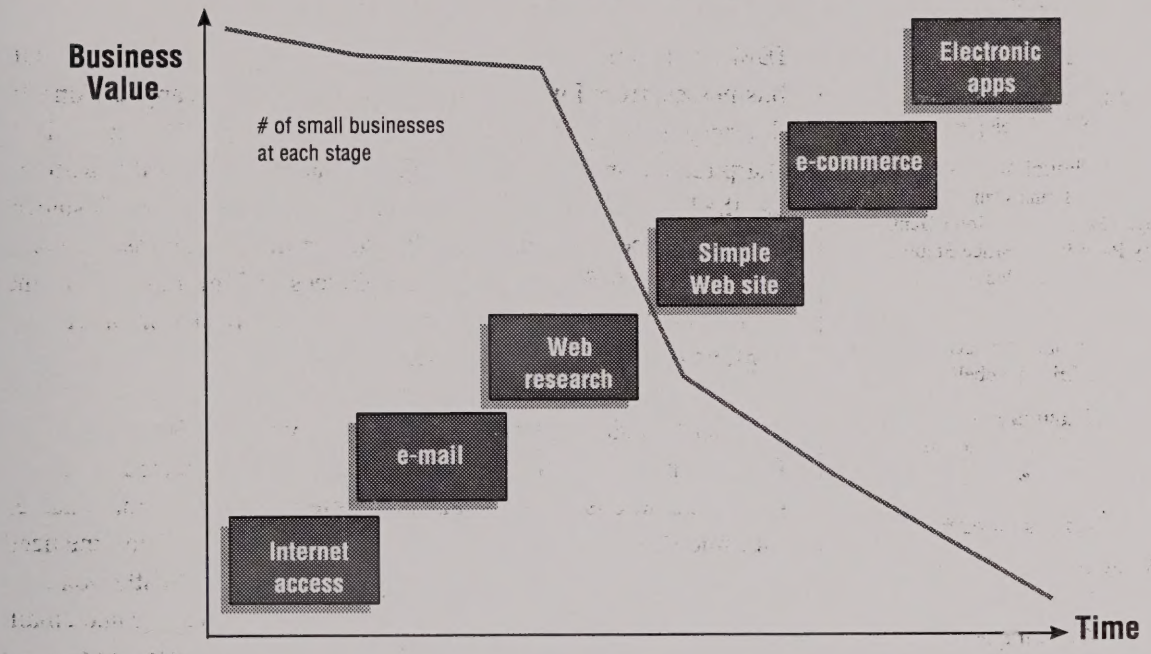
IBM is rolling out a $300-fee interactive advisory service called ebusiness Accelerator that offers case studies, online questions and answers, and teleconferencing.

IBM's small business site receives 10 times the traffic of a year ago as IBM is trying to make it a true resource center. The site is hosted in seven countries with locally maintained content. However, IBM executives made it clear they tend to stick to their knitting rather than make this into a true portal. For those who want their own portals, IBM's Personal Assistant technology provides access to other content that one might carry.

The IBM Web site is fairly complete and even offers banner exchange programs through Smart Age and other helpful tips for those who may be new to the Web.

There are various ways of slicing the small business market, which IDC defines as having fewer than 100 employees. In 1999, there are about 7.5 million small businesses in the United States, of which about 81% have PCs.

FIGURE 1
STAIRWAY TO E-BUSINESS

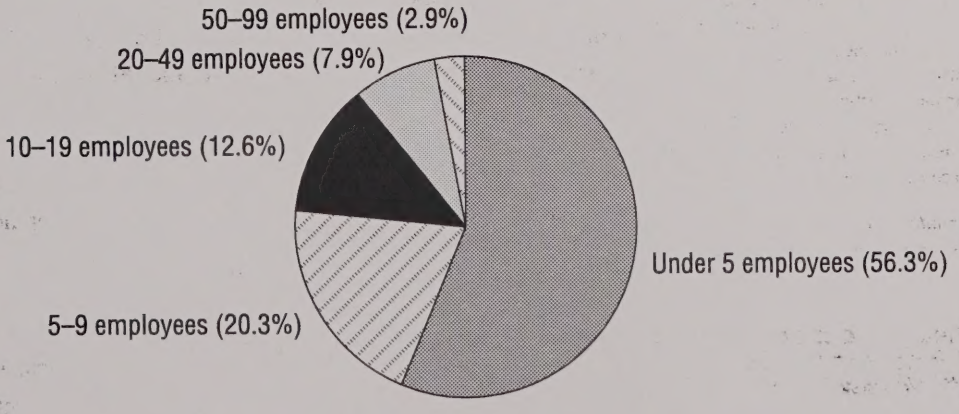


Source: IBM, 1999

Not surprisingly, the majority (56.3%) of small business firms in the United States have fewer than five employees, while less than 3% have between 50 and 99 employees (see Figure 2). (See *U.S. Small Business Overview: 1999 Communications*, IDC #18962, May 1999.)

The largest number of small businesses are found in the following sectors: retail, other services, and architecture/engineering/ construction.

FIGURE 2
U.S. SMALL BUSINESSES BY NUMBER OF EMPLOYEES, 1999



Total = 7.5 million
Source: International Data Corporation, 1999

ATTRACTIVE IT MARKET

Small businesses represent a sizable market for IT suppliers. They are expected to buy more than 10 million PCs this year, more than 4 million printers, more than 2 million scanners, and more than five million cellular phones. In addition, small businesses account for a hefty portion of landline communications spending among businesses (see Figure 3).

Small business as a category is attractive to the IT industry because two-thirds of the 1,043 businesses responding to IDC's survey have been in business for more than 10 years. In addition, more than one quarter of these small businesses have some employees who are telecommuters. This fact should auger well for the ISPs that provide collaborative tools such as group calendaring and document management.

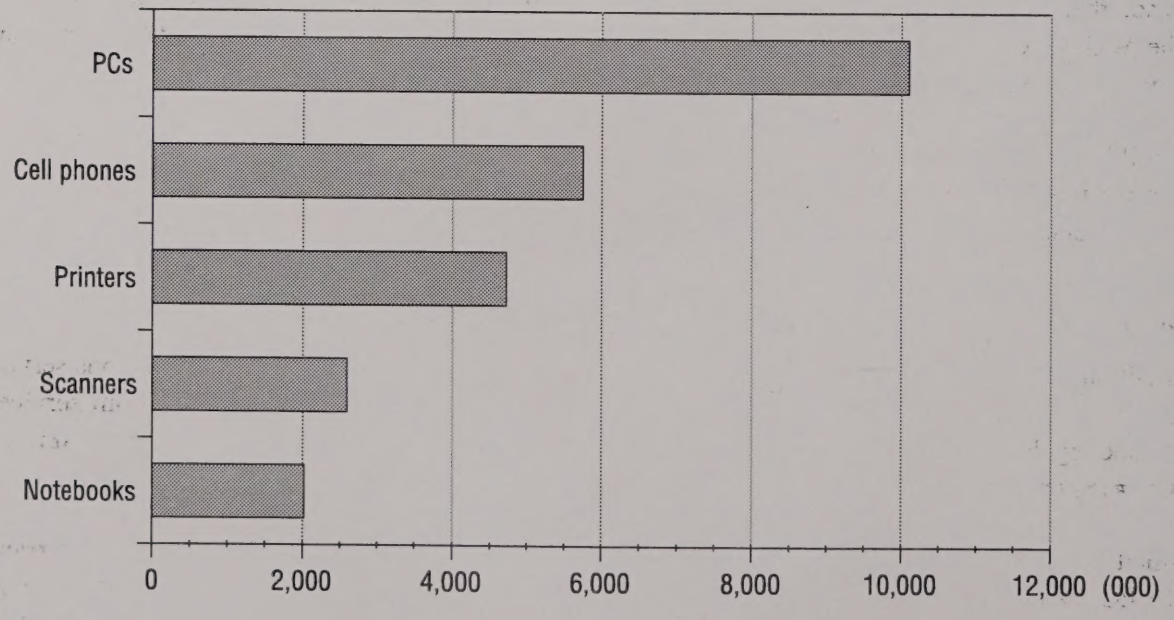
INTERNET USAGE

Internet penetration in 1999 among U.S. small businesses with PCs should reach 59%, rising to 68.5% by 2002 (see Figure 4). (See *U.S. Small Business Forecast: 1997–2002*, IDC #16858, August 1998.)

Within those companies that are online, the reported frequency of Internet access has risen, although access is often limited to a few employees. Forty percent of online users access the Internet multiple times per day, compared with less than 29.4% in 1997. Internet usage is fairly constant across all sizes of small businesses.

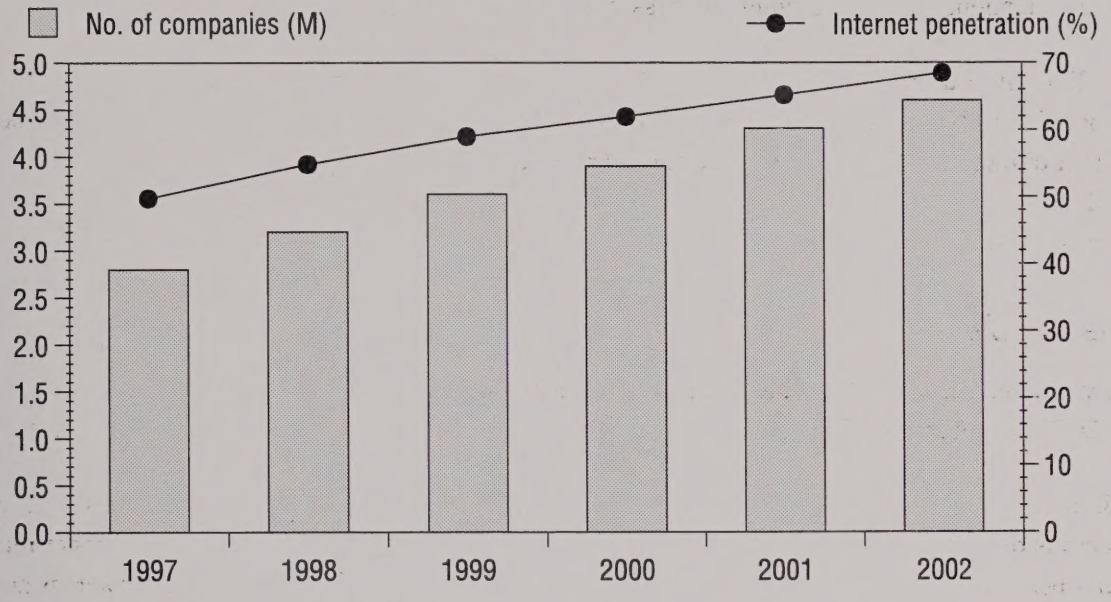
FIGURE 3

IT SHIPMENTS TO U.S. SMALL BUSINESSES BY TECHNOLOGY, 1999



Source: IDC's *1999 Small Business Survey*

FIGURE 4
INTERNET ACCESS BY U.S. SMALL BUSINESSES WITH PCS, 1997–2002



Source: International Data Corporation, 1999

In an IDC survey of 577 small businesses with Internet access, only 38.7% said they allow Internet access by all employees (see *U.S. Small Business Overview: 1999 Communications*). One possible reason that most don't allow access is to avoid the additional costs of extra phone lines and ISP links. The Whistle Communications device was designed specifically to enable multiple PCs within an office to share access to the Internet.

Email is still the "killer application" for small businesses, used by more than 60% of companies with Internet usage. Ecommerce has caught on, with nearly one-third using the Internet to buy products from others, but only 10.5% said they use it to sell products.

COMMUNICATIONS

Small businesses accounted for $40 billion in spending for local landline telecommunications services, or 62.2% of dollars spent on local services by businesses, in 1998. (Landline telecom services include regulated, terrestrial, voice, and data services.) (See *Small Business LEC 1998 Year in Review*, IDC #18718, April 1999.)

Small businesses and their price sensitivity are prompting the competitive local exchange carriers (CLECs) and incumbent local exchange carriers (ILECs) to tune their offerings toward this sector. About 14% of small businesses said they were interested in switching local service providers in 1999, and 75% of these seek lower prices.

HOME OFFICE MARKET

The home office market, which includes both corporate home offices as well as income-generating home offices (both full- and part-time self-employed workers), is growing more rapidly than the entire small business category.

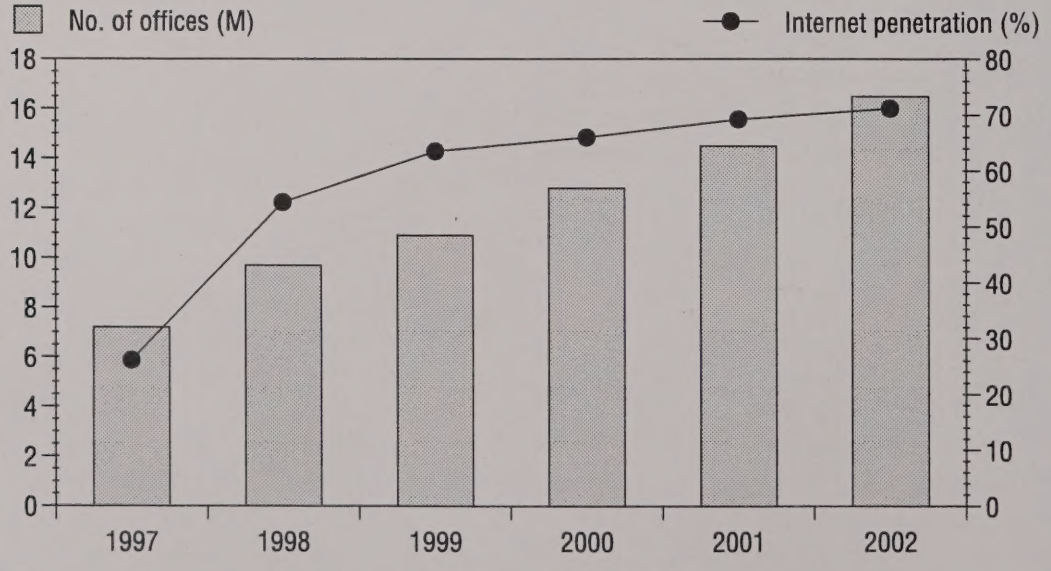
The Internet is used more widely among the home office crowd than in the small business segment as a whole. Of the 23.8 million income-generating home offices in 1999, 69.5%, or 16.5 million, have personal computers, and 66% or 10.9 million are on the Internet.

Activity in the income-generating home offices is quite lively. The number of such offices is slated to increase at an 8.1% CAGR between 1997 and 2002, from 20.7 million to 30.5 million. The CAGR for income-generating home offices on the Internet is a whopping 18.2%, with the number growing from 7.2 million in 1997 to 16.5 million in 2002 (see Figure 5).

ISPs stand to capitalize on the 19% CAGR between 1997 and 2002 for spending on Internet access by the income-generating home offices. In 1999, this spending should be $3.1 billion, and it should jump to $5.4 billion by 2002.

In the entire base of home offices in the United States, the access method battle is heating up. Traditional dial-up will drop from its 89.5% share in 1999 among U.S. home offices to 63.9% in 2002 because of growth in the use of cable modems and ADSL (see *Home Offices on the Internet*, IDC #18331, March 1999).

FIGURE 5
U.S. INCOME-GENERATING HOME OFFICES, 1997–2002



Source: International Data Corporation, 1999

The New IBM: A Look Under the Hood

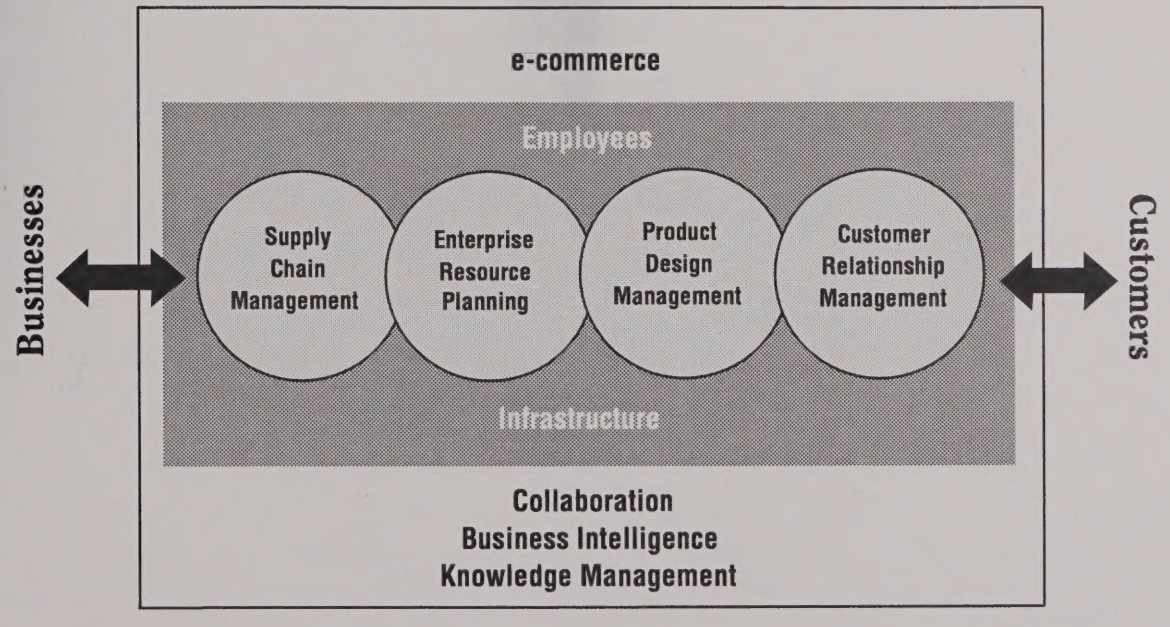
IBM has definitely changed some of the fundamental ways it thinks about things. Big Blue now not only preaches but practices heterogeneity, and it also is willing to license nearly any technological jewel. These two factors may give IBM an advantage in playing by the new industry rules that increasingly discard/eschew the NIH (not invented here) syndrome in favor of the mantra that proliferation of its technology increases the attractiveness of IBM products in the heterogeneous world.

IBM loves ebusiness for several reasons:

- Ebusiness is the pheromone that attracts customers to IBM in engagements that tend to involve consultative and integration skills from its services group as well as discrete products.
- Ebusiness often involves a soup-to-nuts restructuring, modernizing, and integration of different aspects of a company's business. Often, customer resource management is the initial reason customers approach IBM.
- IBM studies show that IBM is much more frequently associated with ebusiness than other companies, indicating its branding campaign has been successful.

IBM's concept of ecommerce includes four elements, as can be seen in Figure 6.

FIGURE 6
E-BUSINESS REQUIRES INTEGRATION



Source: International Data Corporation, 1999

As one would expect, IBM is intent upon developing an application framework that will serve it in development and integration of applications. It's also a handy way of viewing how IBM intends to play in the thin client era of what it calls pervasive computing (see Figure 7). IBM plans to construct industry applications on top of the framework.

In addition, IBM expects its Web application server business will be on the same scale as its database business.

When IBM mentions heterogeneity, it knows the definition. There was a gasp from analysts at IBM's recent briefing when a speaker said IBM does DB2 builds nightly on 17 platforms in 12 languages.

IBM is using its middleware skills to construct an application framework layer to enable applications to run across multiple platforms. This will be very useful in the pervasive computing scheme with thin clients and the resultant split between application elements.

IBM was one of the several vendors at Java One that implemented a standards application that tests servers to ensure that applications will run on several Web servers.

IBM is supporting Java on many fronts. In addition to adding Java to its MQSeries, IBM recently announced a JVM implementation for Linux, available for download from its alphaWorks site, **www.alphaworks.ibm.com**. Alphaworks is analogous to IBM's incubator for new developments that IBM is offering to the industry in hopes of increased feedback and acceptance. For example, there is an XML parser offered on the site. If one needs proof of the new ways at IBM, look no further than alphaWorks.

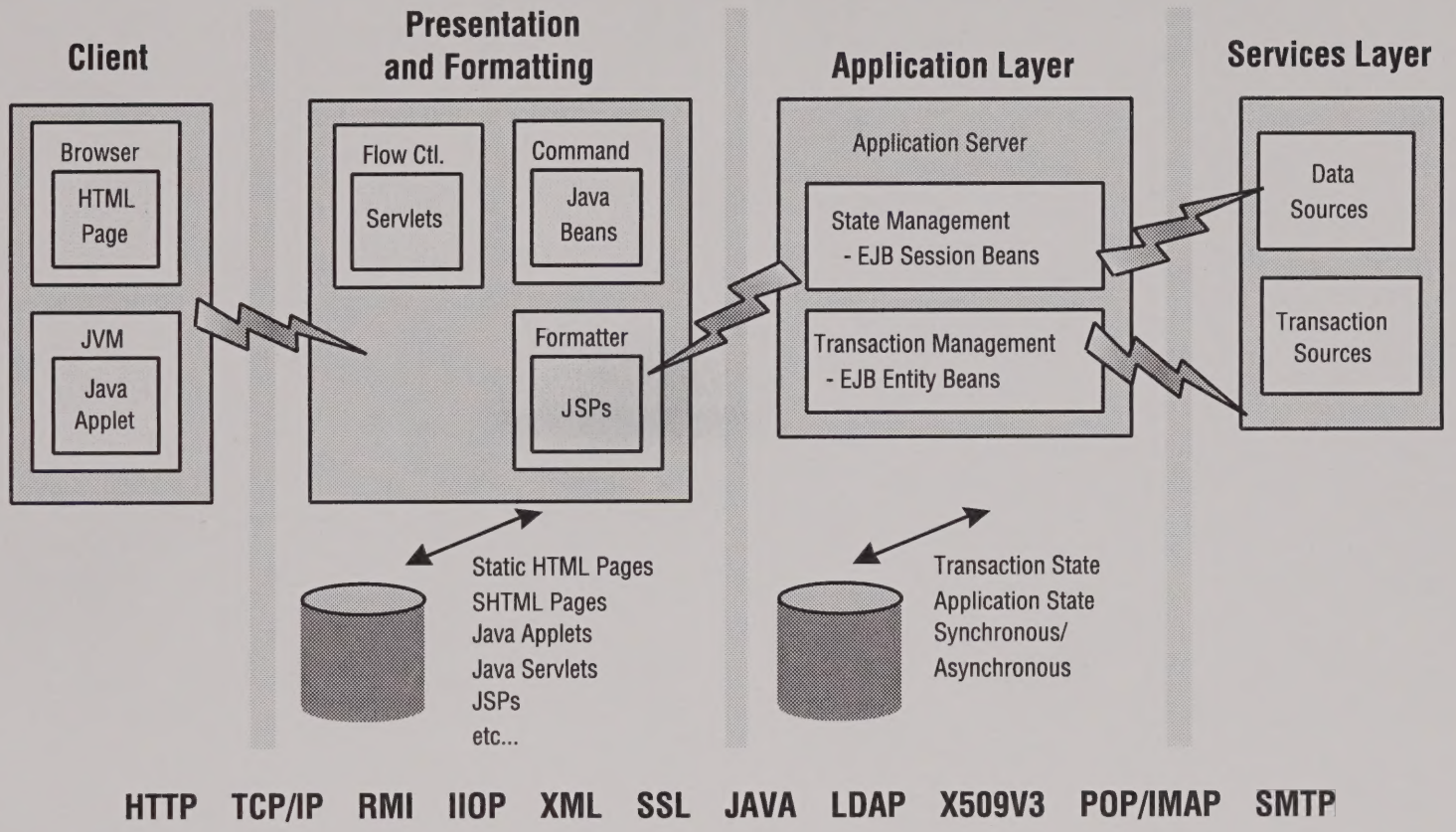
And IBM is open for business in selling components of both the hardware and software variety. Folks from the new Sun/Netscape venture gleefully told *The Gray Sheet* they expect to implement IBM's TXSeries in the NAS 4.0 server due in July this year. TX supports nested transactions and can handle distributed transactions to PCs, Sun said. Informix is also licensing TX Series. In addition, Sun and IBM are joint marketing DB2 as well as DB2 OLAP server and IBM's Intelligent Miner. CICS has been supported since a previous release of the NetDynamics server. Given this level of software commonality, might MQSeries be next?

IBM's OEM hardware deals, such as PowerPC chips for Nintendo and disk drives for EMC, get the press coverage, but the software may be more important for the industry long term.

Two Central Themes

IBM appears to have two central themes in its application server products that occur mainly in its middleware: transaction processing and connectivity via use of open APIs and standards. These capabilities are central to the success of ecommerce. IBM's thought appears to be that the more widely

FIGURE 7
APPLICATION FRAMEWORK DEPLOYMENT ARCHITECTURE



Source: IBM, 1999

its technology is in use, the more easily its systems will connect with others, and the existence of more functional systems will drive the market's growth.

In the transaction arena, TXSeries is playing an increasingly central role with connections to both CICS and the Transaction Processing Facility (TPF, the engine behind many airline reservation systems). TPF is also integrated with WebSphere. Both CICS and TPF have proven themselves in the transactional arena.

It's important to note that IBM is embracing Java in a major way in order to provide MQSeries and other tools the ability to interface widely with the rest of the world.

MQSeries, IBM's middleware based on asynch messaging, is an integral element of IBM's design to promote business integration. IBM wants to make MQSeries the intermediary of choice for business integration.

For example, MQSeries will be sprouting wings and expanding beyond PCs and computers and will be found in smart phones and other appliances in the future.

IBM is enhancing MQSeries by adding:

- XML to position MQSeries as the bridge between XML and heterogeneous enterprise.
- New Java APIs to provide greater platform independence. These include Java Message Service (JMS), which is the foundation service API for message queuing in the IBM Application Framework for ebusiness. JMS lets applications written to the JMS communicate with those written for the MQ Series Message Queue Interface and the AMI. It will be downloadable free in 3Q99.
- Application Messaging Interface (AMI) that moves message handling code from the application to middleware. Availability is scheduled for 3Q99.
- The Common Message Interface (CMI) that can be used with AMI, JMS, and MQI and provides programming support for XML-based messaging. It will be available in the future.

IBM is providing integration facilities from the Web server to legacy applications and from the desktop to the Web server.

On the back end, MQSeries is the basis of IBM's Net Commerce Integrator, a standalone product that is also an optional feature on IBM's Net.Commerce. The Commerce Integrator can be linked with more than 35 platforms, according to IBM.

On the client side, IBM acquired Planetworks L.L.C. and now offers its Interspace tool as IBM VisualAge Interspace. The tool is designed to enable programmers using Sybase PowerBuilder and Visual Basic to create applications that access IBM's middleware and legacy environments.

Future Themes

The next phases of lBM's ebusiness efforts will involve two of IBM's current initiatives: deep computing and pervasive computing. (And who said IBM isn't thinking marketing?) Deep computing is the term given to cover the application of heavy number-crunching scientific-like capabilities to large data sets to solve business problems such as energy modeling, biometrics, and insurance analysis.

Pervasive computing covers the expected proliferation of thin clients or appliances into the deep recesses of everyday life such as washing machines, vending machines, and autos. IBM does not expect to be providing devices; rather, it expects to provide services, components, and software to the device makers and service providers.

For example, IBM is putting MQSeries and DB2 on some devices and has announced Visual Age for embedded devices.

Bandwidth Battle

Until the next generation of the Internet arrives, there is an increasing recognition by content providers as well as delivery mechanisms such as ISPs that since bandwidth is very desirable, it is worth fighting for.

The U.S. District Court in Oregon ruled that Portland could require AT&T to open its cable lines to rivals, and that case is being appealed.

The FCC Chairman William Kennard indicated that a national policy is needed to govern access to the Internet via cable, but the FCC favors a nonregulatory approach and urged the cable industry to act "responsibly" in opening access to its lines.

But the issue isn't likely to disappear soon from the agendas of municipalities. Both San Francisco and Los Angeles are currently studying the issue.

The faster bandwidth offered by cable wasn't such a big issue a year ago when the landscape was littered with many small players possessing small geographic fragments and streaming audio and video had not reached the mainstream population.

Now, after a frenetic six months with cable companies acquiring and selling each other several times over, the remaining few cable enterprises command sizable geographic presence. In addition, streaming audio and video are de rigeur for today's teenagers.

Hence the demand for more bandwidth. AOL with its dual presence as a content provider as well as deliverer of service is feeling the pressure to provide more bandwidth. After being rebuffed by several cable companies, AOL took to the air and via a $1.5 billion investment in Hughes Electronics Corp. will gain access to its satellite channels. But don't expect this satellite deal to quell AOL's quest for cable delivery.

Currently, the Hughes DirectTV service provides satellite downloads, but consumer input has to travel by phone. The firm is developing a two-way satellite communications system. The added advantage of satellite is that it stretches to areas not served by cable. The move complements AOL's previous agreement with Hughes Network Systems (HNS) and its AOL TV initiative.

As part of AOL's movement toward TV, HNS will collaborate on development of a service that combines satellite TV programming with interactive content. Hughes will build satellite set-top boxes that handle both the DirectTV feeds and the AOL service. Going beyond the DirectTV audience, Philips will build a terrestrial set-top that enables non-DirectTV subscribers to access the service. Network Computer Inc., of which AOL is a partial owner, will provide the software for the set-tops and server management software (see *AOL Confirms AOL TV, Partners Announced*, IDC #19240, May 1999).

IDC estimates the Direct Broadcast Satellite (DBS) service is gaining nearly 200,000 new subscribers each month and that about 8% of home Internet users already have DBS service.

AOL isn't the only content provider buying bandwidth. Microsoft is throwing $5 billion at AT&T for a 3% stake in the telco giant and the ability to use AT&T's newly acquired cable network for Internet and possibly other content formats as well. This deal occurred shortly after AT&T agreed to buy MediaOne, a large cable network. Microsoft also acquired a stake in a U.K. cable/telco company, Telewest Communications.

Internet Insider

Occasionally, *The Gray Sheet* presents an array of topical thoughts ruminating in the minds of IDC analysts. The following sections include such an array.

Viral Marketing: Scheme or Meme?

If you haven't already heard about viral marketing, you will. The concept is spreading as fast as a virus itself. The basic idea is to get your customers to do your marketing for you when they use your product. This works especially well for communication products and has been cited as the secret to success for Hotmail, GeoCities, and ICQ.

Though it's a lot better at generating customers than revenues, this wasn't a big issue for Microsoft, Yahoo!, and AOL when they acquired these companies. Clearly, viral marketing is an important technique, but almost no one has shown that you can build a money-making business around it, with the (ironic) exception of McAfee's antivirus software.

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Common Currencies

Ecommerce sites are catching on to Amazon's consumer-friendly ways. Implementation of one-click purchase and a gift certificate for multiple stores may help other merchants gain customer loyalty.

The one-click purchase is gaining momentum with a new standard for electronic wallets called Electronic Commerce Modeling Language (ECML) that is supported by a consortium of credit-card, PC, and online merchants.

ECML (**www.ECML.org**) provides a consistent set of field names for the consumer's information such as name, address, and charge card information, which is entered once and stored locally. The ECML can be used with various security protocols, including SSL and SET.

The Flooz (**www.flooz.com**) gift certificate is usable at a range of online merchants, thereby letting the hard-to-please gift recipient choose where to shop. Most retail participants are boutiques such as Nirvana Chocolates and All Things French, but larger retailers such as Babycenter.com and Omaha Steaks are future participants.

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Furniture.com Feels at Home on the Web

Furniture.com is seeking to take the lead in the home furnishing market. With relatively little competition and the perfect URL, the company offers over 50,000 items, online financing, and even free delivery.

Similar to the car-buying market, the home furniture market appears ripe for an ecommerce alternative. Most real-world furniture stores can display only a fraction of their inventory in a showroom, and the buying experience leaves many shoppers frustrated with commission-driven sales personnel.

In a highly fragmented manufacturing and retail market, there is no dominant furniture brand. By taking advantage of existing fulfillment capabilities, merchants gain a strong opportunity to partner with leading manufacturers and distributors. A key challenge for Furniture.com will be to speed up the product delivery cycle, which can take an average of six to eight weeks. Internet shoppers have come to expect instant gratification for their online purchases, and it will be a challenge for Furniture.com to satisfy those expectations.

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Internet Spending: Who Is and Who Will Be Calling the Shots?

In 1998, Internet-related spending by U.S. businesses and consumers reached a total of $124 billion. This includes technology and nontechnology expenses such as marketing services and content management. By 2003, U.S. Internet spending will increase to $695 billion. Technology investments will represent 39% of the overall number, down from 50% in 1998.

What does this mean to the IT community? It confirms that although the pie is getting bigger, the proportion of the pie that belongs to IT is getting smaller. It also shows that other activities directly related to the Internet economy (primarily marketing and content providers) will become an increasingly influential force in shaping future Internet spending patterns.

This scenario presents vendors in the IT community with the challenge of addressing a very diverse environment when they are looking to capture Internet dollars. As the role of nontechnology groups grows, building mindshare across the Internet spectrum becomes a critical first step in the process.

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Dressed for Success in Europe

Sports equipment and clothes are about to become the next hot online items if it is up to Ernst Malmsten and Kajsa Leander, two young Swedes who could well be described as the Jeff Bezos of Scandinavia. They were the people behind the successful Swedish online book shop Bokus that has achieved the same status in Sweden as Amazon has in the United States. They managed to sell Bokus this spring at a price that was about twice as high as the annual turnover in its first year of existence.

The two are about to get started on a major project called **boo.com**. The site will sell exclusive sport clothes to young people who have lots of money but are short on time. The site was originally to go online by the end of May in five European countries (Denmark, Finland, Germany, Sweden, and the United Kingdom) and in the United States, but the grand opening was postponed for several weeks. Financially, Boo.com is backed by J.P. Morgan, Benetton, and the French company LVHM and already employs 200 people.

This may be just another ecommerce Web site, but it illustrates the different approach taken to ecommerce in Europe and the United States. There may be just as many Web users in Europe as in the United States today, but they speak about 10 different languages. There are also large variations in tastes and flavors from country to country. For an ecommerce Web site to be successful, it needs to address these markets individually. This is something many Swedish Web sellers seem to understand, and this understanding will allow them to achieve success in other European countries as well.

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Ignore Asia/Pacific Localization at Your Own Risk

Asia/Pacific is experiencing faster growth in Internet usage than anywhere else in the world. In countries like China and India — traditionally considered a business backwater — the Internet has changed the rules. Now the business communities have seen an affordable business platform that appeals to their unique ingenuity skills rather than the size of the hat they wear, the private jet they fly, and the wallet they carry.

What do vendors need to do to penetrate this hugely untapped region? Quite simply, they need to realize this plain fact about the Asia/Pacific market: The majority of people don't speak English! And recent IDC research shows that over 75% of Asia/Pacific Internet users don't want to see the Web or related technologies in English.

Asia/Pacific will see a breed of locally born ecommerce players who are able to address the huge need for localized products and services. Before long, these new players will begin building mindshare on foreign shores as their appeal grows among the massive non-English-speaking ethnic communities residing in both the United States and Europe.

Enter the dragon!

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THE GRAY SHEET

IDC's forecasts of IT opportunities

Vol. 34, No. 4 IDC #19450 June 9, 1999 Molly Upton, Editor

Hewlett-Packard Tackles the Future

In This Issue:

Hewlett-Packard Tackles the Future 1

Espeak 2

Razor Blades 3

Figure 1: Open Internet Services 3

Figure 2: Hewlett-Packard's New Financing Attitude 4

HP Puts Skin on the Table 4

HP Gets the Net 6

Rules of the Game Change 7

Haves and Have Nots 7

Rules — But Who Cares? 8

If You Can't Beat 'Em 8

IDC

To take a phrase from the auto industry, this is not your father's HP. The stalwart of Silicon Valley has done some deep group thinking, perhaps thanks to management consultants, and devised a vision in which it can capitalize on its strengths by weaving together what were previously standalone product offerings and aggressively adding to its product portfolio.

Although words by themselves don't translate into action, the new Hewlett-Packard attitude is shown in a speech by Joe Beyers, general manager of the Internet Business Unit. He said the attitude could be captured by the words "move fast; aggressive; take risks, innovate." So HP can talk the talk, but can it walk the walk? The larger issue is whether HP's vision of eservices will be widely adopted.

HP is also trying to outdo IBM in the vision category by promoting eservices with thought-provoking ads. The ad campaign is designed to gain entry into the vision game. The interesting thing about eservices is that it can be nearly anything one wants it to be. In HP's words, eservices "envisions a world in which people and businesses derive new value from the Internet by moving beyond Web-based access to information to a world in which a rich array of nimble, modular electronic services, eservices, are accessible by virtually anyone and any device."

Some of the main prongs of HP's eservices thrust:

- Espeak — the underlying glue
- Risk model — financing systems at no up-front cost to the new eservices provider in return for sharing revenue
- Alliances — to provide turnkey solutions

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ESPEAK

Espeak is HP's term for "an open platform for the creation, composition, mediation, management, and access of Internet-based services." HP has some ambitious plans for espeak's capabilities. According to HP, eservices powered by espeak "can advertise their capabilities to other eservices, discover other eservices on the Net, and even ally with other eservices on the fly to create new eservices." Espeak allows ad hoc and secure interactions across firewalls and is open, modular, scalable, secure, and manageable and features dynamic brokering, HP said.

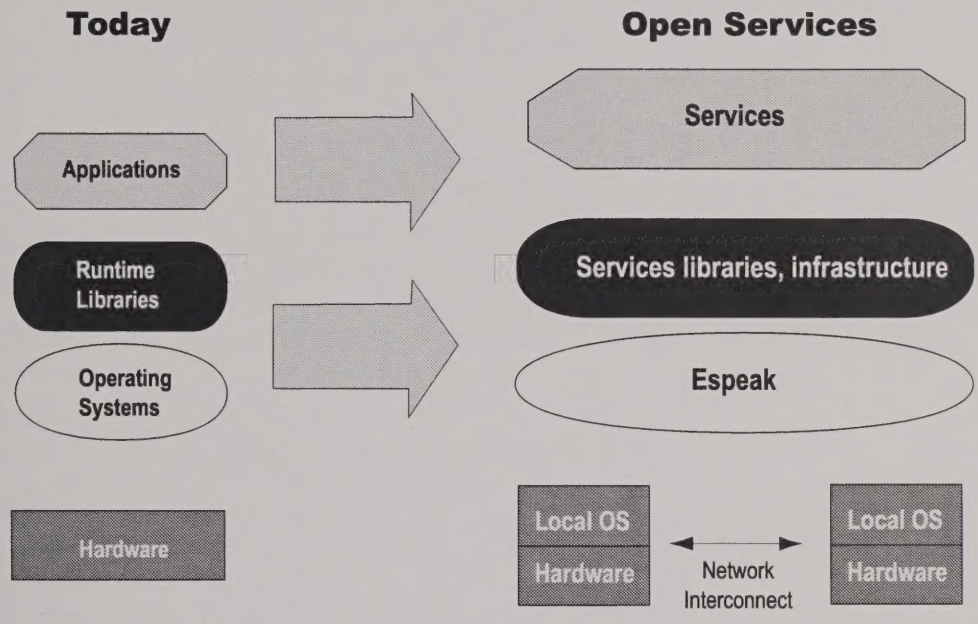
Espeak is cross-platform software that supports Unix, NT Server, and Linux. HP plans to make HP espeak core software available to the development community on an open source model and to sell development tools, support products, and consulting to the eservices marketplace.

The espeak "architecture includes core software and programming tools that can be used with resources of any kind (computing device, application, or data content) regardless of hardware or operating system environment," HP claims. The core software components need to be installed on each device/appliance that connects to the espeak services environment and provide basic capabilities such as messaging, security, naming, monitoring, and mediation for the eservices running on or accessed by these devices/appliances. This means espeak needs a high degree of adoption by device manufacturers. The idea is that developers will be able to focus more of their effort on solutions that differentiate their services if they can use prebuilt components and solutions (see Figure 1).

The real question is whether HP can propagate to its competitors its espeak technology, the interoperable glue that helps different systems provide the new era of services. Traditionally, efforts proposed by a major systems player have often met with less-than-complete adoption by competitive systems makers. Now, the question is whether in the Internet era, when the whole is constituted of many parts, competitors will adopt underlying software designed not by a neutral third party but by one of them.

Sonera Ltd., a Finnish communications company, is working with HP to develop technologies and eservices based on espeak and Sonera's Smart Trust technology, a secure digital signature technology for wireless networks.

FIGURE 1
OPEN INTERNET SERVICES



Source: Hewlett-Packard, 1999

RAZOR BLADES

In the topsy-turvy world of the Internet, companies are suddenly finding their business models changing. Companies are discovering they are in the razor blade business in which their systems — razor equivalents — are merely the entry point to a revenue stream. HP understands this concept and is drawing upon its financial strength to inject itself as a key supplier to emerging and existing service providers. HP's accountants apparently have cast aside their ultraconservative ways and are now muttering a mantra that sounds like "invest now, reap later." They're actually speaking the words "risk sharing."

Some of the prongs of the HP strategy appear to be:

- Get systems adopted by service providers and gain access to the ongoing revenue stream.
- Pilot eservices in a variety of markets.
- Make deals and acquisitions to complement HP's portfolio.

HP launched its eservices campaign via its modestly named "Commerce for the Millennium" program in which HP is positioning itself as the preferred, no-cost provider of complete ecommerce-in-a-box systems for service providers catering to small businesses. In this program, HP has adopted the risk-sharing business model in which HP takes no up-front payment from the service provider and deploys, supports, and comarkets the solution. In return, HP and the service provider share service-related revenue streams from sources such as monthly service fees, service set-up fees, and transaction fees.

HP is also providing assistance in cofunding and codeveloping market plans to target the service provider's installed base and attract new customers.

HP's Craig White, vice president and general manager of HP Technology Finance, admits this is a shift from its traditional financing role (see Figure 2).

HP Puts Skin on the Table

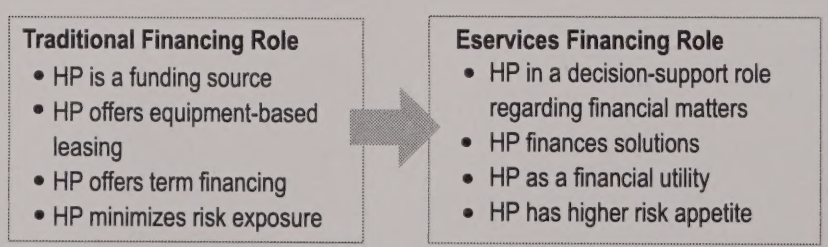
HP's ante into the card game includes an assortment of cash, effort and expertise, and systems. In the cash arena, HP is adding venture financing to its activities. For example, HP has put in $6 million to help viaLink Company get up and running, in addition to providing consulting services, servers, and outsourcing. viaLink is building what it calls the Item Catalog Service designed to streamline the supply chain management process in the retail distribution channel.

HP has done a couple of sizable alliances with BroadVision and BEA covering a three-year period of development, sales, and support, thereby adding personalization and middleware to HP's hand in an effort to offer the soup-to-nuts application server family. Because the stakes are high, HP's efforts in this arena appear to The Gray Sheet to be more serious than the numerous casual alliances that occur daily within the industry. The next competitive arena, which is the focus of these pacts, involves vendors scrambling to satisfy user demand for application servers that provide a respectable scope of competence and don't have to be cobbled together.

With BroadVision, HP has a pact to jointly develop and brand new personalized business-portal solutions designed to be offered as preconfigured, pretested solutions. HP will also resell and support BroadVision's current One-To-One suite combined with HP technologies such as HP's WebQoS (quality of service).

HP said this alliance represents a $35 million commitment to BroadVision over the next three and a half years for the development, sales, and support of business portal solutions that will act as an interface to next-generation eservices.

Figure 2
Hewlett-Packard's New Financing Attitudes



Source: Hewlett-Packard, 1999

HP also has a deal with BEA that it says is a $100 million commitment over the next three years for development, sales, and support of integrated cross-platform products. The deal covers the BEA link and planned component-based solutions built on BEA WebLogic application server and BEA Tuxedo transaction server. HP plans to integrate various HP technologies such as OpenView, Praesidium, MC/Service Guard, WebQoS, and ChangeEngine with eLink and the component products.

Sometimes equipment is as valuable as cash. As part of a strategic partnership of HP, Qwest Communications, and SAP America, HP is putting $500 million worth of server hardware, software, and services into Qwest's application hosting CyberCenters in return for monthly fee revenue based on platform utilization.

HP is partnering with Ariba to provide clusters of HP 9000s and management software such as OpenView, WebQoS, and MC/ServiceGuard that Ariba will integrate into Ariba.com network.

In its Commerce for the Millennium program, HP has a broader view of service providers than the class known as Internet Service Providers. Among the joint ventures so far:

- Interland, a Web-site hosting company with 30,000 Web sites.
- Vital Processing Services, a merchant processing company.
- Econex LLC, a service provider for small and midsize companies. Econex counts as its customers Nova, a large credit card processor, KeyBank, and FirstEnergy, a Midwestern utility.
- Cardservice International, a transaction service provider.
- Confederacion Empresarial de Comercio de Andalucia (CECA), a large small-business association in southern Spain with more than 20,000 members.

To construct the turnkey solutions, HP has leveraged some of its technologies along with key partners. Partners include:

- Breakthrough Software with store-building software
- Cardservice International with merchant account set-up
- Cisco Systems, offering network infrastructure
- ClearCommerce, providing payment processing, fraud protection, tax, and shipping
- Portal with a billing engine

HP technologies in the offering include:

- Gravity single click
- OpenPix zoomable images
- VeriFone payment security (SET solution)
- Web Quality of Service for traffic/load management
- Internet servers with OpenView and MC Service Guard

HP also has some agreements with Cisco to jointly develop an "end-to-end intelligent Internet infrastructure," according to Cisco.

Some of the key elements of eservices lack definition. Currently, HP's stance apparently is directory agnostic, perhaps in deference to multiple pacts with the Redmond presence. However, if HP is to truly leverage OpenView and expand its role in the eservices arena, an integral directory service might be very handy. On the device front, HP understands the validity of connectivity to virtually any device but has been very quiet on its Chai development, which could potentially own some of the space that Jini is targeting. In addition to ChaiVM, which was HP's effort at making a fast, small-footprint Java virtual machine, products include the TurboChai compiler, Chaiserver, and ChaiAppliance Plug and Play that incorporates Microsoft's Universal Plug and Play.

The Gray Sheet notes that HP has Jim Bell heading up this effort as general manager of HP's Embedded Software Operation. Bell was noted for his effective diplomacy in the early days of commercial Unix.

HP Gets the Net

HP recently announced that it is selling PCs at list price via its Internet site to corporate customers and offering customers the choice of buying through its partners or direct. In fact, it is using the Net extensively to do business with its partners and customers.

Prior to mid-1998, HP had numerous Web sites for customers with no consistency in addresses or ways to access them. In order to lure the cooperation of these sites, HP advocated an open model that enabled the existing sites to share in the advantages of a single site. With the objective of making it easier for its named accounts to do business with HP, HP started by providing a unified front door, with the same authentication, ID, and entitlement facilities for the numerous existing HP customer sites.

The channel partners and customers were polled to determine what services should be available on the site. HP also sought buy-in from the sales teams by offering them the ability to provide their own content on the site, which has secure content at the individual, workgroup, and account levels. The sales teams determine the content available for particular customers. An entitlement system ensures that only authorized people perform certain functions, such as configuring systems and ordering systems. The account team determines the roles within the customer company, and registration is via an initial key.

HP believes that handling entitlements is an issue facing the entire industry and that its solution enables customers to locate their catalog of preferred purchases on the HP site rather than putting it inside their firewall, as is often the practice. The entitlement is managed by both the customer and HP.

HP is broadening the scope of its offerings and includes employee purchase of PCs for corporate customers as well as asset tracking and leasing and order fulfillment information.

HP also is offering financing with fast approval/nonapproval of loan applications for all goods purchased through HP's online Commerce Center.

HP is looking at how it can extend its open services model to midsize customers in the future. The fixed costs of the Web will enable HP to provide services from HP and other potential suppliers to this market. This would put HP in a position similar to that of PeopleSoft's Business Network in that HP would become a distribution channel for complementary services. HP feels its entitlement management scheme is a differentiator for this effort.

HP started its customer Web site effort in October and recently had 600 accounts with around 2,200 enterprise users and 3,000 channel partners.

Rules of the Game Change

Imagine watching a contest in which one team plays by the rules of rugby and the other team plays by the rules of touch football. To compound the chaos, the rules of touch football have been tightened. Can the touch football team compete? How do the onlookers keep score? Now imagine playing on the touch football team.

The analogy isn't so farfetched when one looks at the playing field of ecommerce. Many established public companies are finding it puzzling when the rules by which they have played, such as demonstrating improved profitability on a consistent basis, are ignored by the upstart "dot com" companies that instead play by the rule of "cfimitym" or "cash flow is more important than your mother." In this world, players have snagged high market caps because of the assumption their losses reflect progress in pursuing long-term growth.

Haves and Have Nots

The upstarts have better liquidity from market capitalization to make aggressive acquisitions. We're rapidly approaching the bifurcated world of haves and have nots, with the have nots enviously eyeing what might be called the "funny money" of the upstarts. The established companies are increasingly facing the prospect that the upstarts will be the acquirers rather than the acquired.

Some established companies in the industry are mulling their options, which include:

- Staying the course as an established company
- Spinning off a portion wrapped in the dot com mystique that can play by the new rules and potentially gain sizable market cap
- Initiating a "tracking stock" for a portion of its business that relates to the Internet arena to potentially gain sizable market cap

Rules — But Who Cares?

The Financial Accounting Standards Board (FASB) has been tightening the rules regarding acquisitions. In one of those seminal twists of fate, these rulings, which are officially called "tentative decisions" really impact only the established public companies that are judged on their profitable bottom lines calculated on net earnings. The FASB rules are relatively meaningless to the upstarts, whose plans don't include profitability on a net earnings basis anytime soon.

One recent FASB ruling amounts to a cattle call for mergers by setting a deadline of late 2000 when it will eliminate pooling of interest accounting for mergers. The FASB has said companies that announce a merger in advance of the new rule and complete the deal one year from the announcement may use the old rule. (If one wondered why this spring was marked by particularly frenetic merger activity, perhaps the FASB was an inspiration.)

When mergers are based on a pooling of interests, they are done by exchange of stock, and balance sheets are merged. The procedure entirely avoids the future need to write off goodwill, the merger-related premium paid for acquired assets.

After that deadline, companies will have to make their mergers/acquisitions via the purchase method, which entails goodwill. Thus, after late 2000 when the pooling method ends, the players will be unable to make inflated acquisitions without showing the negative impact on their balance sheets if they report on a net earnings basis.

After signaling that companies won't be able to use pooling and thereby avoid goodwill in the future, the FASB is in the process of establishing a new policy that will dictate that companies must spread their goodwill write-offs on a straight line basis over 20 years rather than indulge in the somewhat common practice of accelerating the write-off so that it impacts results for the first few years only. However, if established companies trend toward cash basis reporting, they can mitigate, or eliminate the impact of the FASB rule governing terms of write-offs.

If You Can't Beat 'Em ...

The rules of the playing field may evolve, and more established companies may choose to state their results on a cash basis, which excludes various costs. This method makes the startups look especially good because the results exclude various costs. It's the old "if you can't beat 'em, join 'em" routine. However, there needs to be a single definition of cash basis — there are now several, apparently.

Cash versus net earnings makes a huge difference for the upstarts playing by the cash flow rules. For example, First Call estimated Mindspring's fiscal 1999 results were a loss of $0.93 per share on a net earnings basis but a profit of $0.94 per share on a cash EPS basis.

When using the cash basis reporting, companies sidestep being judged on the effects of the forthcoming requirement for a longer period of goodwill write-off. Both old-line and upstart companies will benefit, but the upstarts will benefit more because the method helps legitimize their life style. And the advantage still goes to the upstarts because the traditional firms will continue to be plagued by lack of "funny money" from high market caps. For full details, see **www.fasb.org.**

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THE GRAY SHEET

IDC's forecasts of IT opportunities

Vol. 34, No. 3 IDC #19361 | May 26, 1999 | Molly Upton, Editor

Eprocurement: VANs Versus Dot Coms

In This Issue:

Eprocurement:

VANs Versus Dot Coms 1

Figure 1: Worldwide Internet Commerce Business-to-Business Applications License Revenue by Vendor, 1998 3

Why Indirect Goods? 3

Figure 2: Worldwide Internet Commerce Procurement and Order Management Applications License Revenue, 1998–2003 4

Bold Strokes 5

Heritage 6

Harbinger 6

Sterling Commerce 7

Correction 8

Despite the frenzy to create and discover dot com companies, several businesses that have a proven track record in the ecommerce arena are lacking the dot com crown or aura. Many of these are known as value-added networks (VANs) that provide electronic data interchange (EDI) services. Now, VANs are preparing to mount their steeds and fly the Internet banner. Some of them have been relatively quiet because they were busy reengineering their companies and developing new products.

Because these companies have been doing the heavy lifting for years, integrating customers' business processes, they contain a breadth and level of skill sets that may not be found consistently in dot com companies that cut their teeth on the Web first and then discovered the need to integrate with corporate back-end, legacy systems.

As ecommerce becomes more pervasive and penetrates more deeply into corporations' inner workings, additional companies such as VANs have a chance to bask in the dot com aura. But it's too early to tell whether public perception will accord these companies the high market capitalization enjoyed by the current dot com group.

Although most of the initial dot com stars tend to be in the business-consumer space, the larger market involves the business-business arena where in the procurement arena, particularly for indirect goods, dot coms such as Ariba and Commerce One are starting to be joined by companies with VAN heritage such as Sterling Commerce and Harbinger. One question is whether firms emerging from the VAN heritage can add sizzle to their steak and secure their stakes in the trading community, also known as the transaction portal arena, before the newcomers own the mindshare there.

It's important to note that all these companies are focusing on the indirect goods arena. Their intentions are either to create trading portals or hubs or, in the case of Sterling Commerce, to supply the infrastructure and tools for hubs or trading portals.

The hub design, the most scalable of the business-to-business models, has a goal of offering one-stop shopping for multiple buyers and sellers.

THE GRAY SHEET

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Will this even be a contest? Consider the following:

- The dot coms have been effective at gaining their share of press and are starting fresh with the model of a hub or intermediary. The dot coms expect to have high market valuations.

- The VANs have extensive heritage in rolling up their sleeves working on data conversion and management and integration with customers' IT systems. These could prove to be the heavy-lifting skills required in business-business commerce. VANs also have ongoing revenue streams from their EDI business. However, the VANs' efforts have been focusing largely on individual customer solutions.

- The size of the market opportunity dictates the need for all players to have alliances with systems integrators, which could detract slightly from the VANs' advantage in possessing these skills.

- It's not unthinkable that the newer players, when they get their bankrolls, may buy a VAN. Remember that VANs have valuable skill sets and their customer bases consist of large companies — prime targets in the indirect goods arena.

There are a few guideposts in the evolving procurement landscape:

- Indirect goods, often referred to as MRO (maintenance, repair, and operations) usually involve numerous purchases from a large number of suppliers.

- The model of a hub or intermediary at the most sophisticated level involves catalog integration, which is no easy task. The hope is that as XML evolves, it will provide additional capabilities (see Vol. 33, No. 24). However, this is not an effort to be undertaken by the faint of heart.

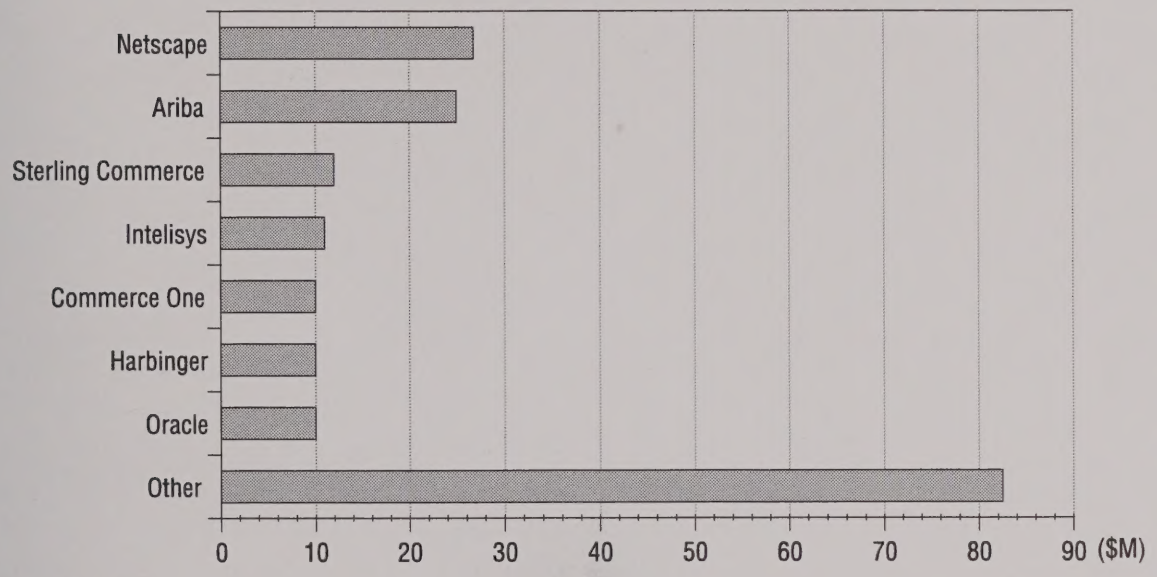
- Direct goods, which ultimately constitute part of the final product sold, have long been the focus of EDI and hence the VANs that made EDI work. Despite efforts to standardize on forms and format, EDI was constructed largely to work between application A and application B in two particular companies. Use of EDI was limited to direct items for which the dollar volume of each item was sufficient to justify the expense of converting these purchases to EDI.

- There's a skirmish shaping up at the buyer site. The ERP players are protecting their turf and are attempting to compete with the procurement offerings by extending their ERP package capabilities. It's clear that the trading community players will attempt to be ERP agnostic and interface with the main ERP packages. A trading community that provides interfaces to a large company's multiple ERP systems is likely to offer advantages because the various ERP procurement offerings are less apt to interface with each other. *The Gray Sheet* thinks ERP

vendors might want to focus on providing facile interfaces into their existing systems rather than further extending their functionality into the procurement realm.

Figures 1 and 2 provide an overview of the eprocurement market. (See *Internet Commerce Software Applications Market Review and Forecast, 1998–2003*, IDC #18593, April 1999.)

FIGURE 1
WORLDWIDE INTERNET COMMERCE BUSINESS-TO-BUSINESS APPLICATIONS LICENSE REVENUE BY VENDOR, 1998



Total = $187.3M

Key Assumptions:

- After evaluating the vendors' target customers, IDC isolated business-to-business revenue from total sales.
- IDC compiled information on target customers using public records, vendors' Web sites, financial results, individual interviews, and IDC analysis techniques.

Messages in the Data:

- Relatively high prices of Ariba's procurement products boosted its market share.
- Services revenue from firms such as Commerce One, Harbinger, and Sterling Commerce are not reflected in the license revenues.

Source: International Data Corporation, 1999

WHY INDIRECT GOODS?

The general rule of thumb is that indirect goods account for only 20% of the value of all purchases but 80% of purchasing transactions. Indirect purchasing is variable, unplanned, widely dispersed, and difficult to manage. These are the characteristics for which an IP-based solution is perfectly suited. The savings from automating the indirect purchasing process can be substantial, and they go straight to the bottom line. Most of the companies IDC has interviewed anticipate a return on the investment in their systems within one year. For example:

- A global pharmaceuticals company is now in the process of migrating 10%, or $400 million, of its $4 billion in annual MRO purchasing to an Internet solution. It expects to achieve a cost savings equal to 10% of those purchases, or $4 million, in the first year alone.

FIGURE 2
WORLDWIDE INTERNET COMMERCE PROCUREMENT AND ORDER MANAGEMENT APPLICATIONS LICENSE REVENUE, 1998–2003

Key Assumptions:

- Data is based on IDC surveys, financial reports, and modeling.
- IDC measures license revenues and associated maintenance fees. Professional services, training, and other recurring user and transaction charges are not included.

Messages in the Data:

- One driving force behind the growth of the segment lies in proliferation of applications that cover direct procurement of raw materials as opposed to nonessential supplies.
- As more businesses participate in ecommerce, demand increases for tools that let them better manage content for customers and trading partners
- Hosted communities run by corporations that aggregate buying power for their customers will prevail over the next 24 months.

Source: International Data Corporation, 1999

- A major insurance company expects to save $20 million by conducting 70% to 80% of indirect purchasing via its online catalog.
- A leading petroleum company is planning to achieve $10 million in savings by moving a third of its $6.7 billion in annual purchasing to the Internet this year.

Catalogs are key elements in the procurement of indirect goods. But the process of integrating multiple catalogs is hardly simplistic, even with advances in XML. Then things can get more complex when the system has to take into account a particular buyer's discount schedule. However, the advantages to the buyer can be substantial, such as a single bill to pay, and the headache of distributing funds to the particular suppliers belongs to the hub.

There are several ways to implement catalog management:

- Catalogs of all suppliers serving a single buyer hosted at the buyer site (Harbinger for Caltex; Sterling Commerce for 3M)

- Catalogs of all suppliers serving multiple buyers hosted by the aggregator (Commerce One)
- Catalogs of all suppliers for a particular vertical (see Vol. 33, No. 18)
- Each supplier hosting an individual catalog

BOLD STROKES

Commerce One thinks in bold strokes and has licensed its Commerce Chain Solution software to Japan's Nippon Telephone Telegraph (NTT) and British Telecom (BT). In a sign of the coming transaction times, Commerce One will take a fee for each transaction occurring at these sites. These large telecoms will provide trading portal services to companies in their areas.

In addition, Commerce One has launched its own trading site, MarketSite.net, which is accessible with selected purchasing applications such as Rightworks' ProcureWorks and SAP's R/2 and R/3 purchasing modules as well as its own Commerce One BuySite. Suppliers may access MarketSite.net via a browser, and integration with Microsoft's BizTalk is planned. And there are layers within layers of services including shipping, tax, and payment services. These ventures are looking more like application service provider (ASP) sites all the time.

Using the XML technology acquired from Veo Systems, MarketSite enables the creation of a single catalog from multiple suppliers.

Both Commerce One and Ariba are providing access to the huge catalog of W.W. Grainger, a distributor of MRO supplies with sales of $4.3 billion in 1998. Grainger is also constructing a new site called OrderZone.com that will enable customers to conduct a single search for an item from multiple suppliers and complete the purchase with a single order form. Clearly, the aggregators are busily aggregating.

Ariba's initial strategy was to pursue major corporate purchasers in order to attract the key catalogs. Ariba now is touting its role as an intermediary hub with its Ariba.com Network, which is hosted by Hewlett-Packard. Ariba takes revenue on the basis of transactions at the site.

In addition to its hub strategy, Ariba has buyer-side software that focuses on streamlining internal approval processes for what it calls Operating Resource Management (ORM), which includes MRO as well as capital equipment, services, travel and entertainment expenses, and other items that require approval via internal business processes.

In an interesting alliance, JD Edwards will offer its clients a version of its OneWorld enterprise business software that includes integration with Ariba ORMS and Ariba.com Network. OneWorld is scheduled to be available integrated with Ariba offerings in fall 1999.

The lines between the dot coms and VANs are blurring in several ways. For example, Sterling Commerce is supplying business process integration capabilities and EC community management services for Ariba.com Network.

Recently, Ariba announced an agreement with Microsoft to integrate cXML with Microsoft's BizTalk (see Vol. 33, No. 23) and to incorporate the BizTalk framework into Ariba products. The agreement involves using XML-data Reduced (XDR), as does BizTalk, in the next version of cXML. Commerce One will also support the BizTalk framework and the XDR version of XML.

HERITAGE

The VAN players such as Sterling Commerce and Harbinger grew by making EDI work for their customers, which were primarily large companies. In addition to pursuing the trading community market, the VANs are extending EDI's reach with a number of initiatives. These include melding EDI functions and the Internet through efforts such as adding basic EDI transaction sets to Web forms, and sending EDI over IP.

Both companies are starting to reemerge from reorganization and reorientation toward new products and services that address the inner workings of business to business beyond EDI. In addition to their experience in data conversion and management and applications integration, VANs have other assets that appear to be suited to the new world of ecommerce. They generally offer:

- Experience in being an intermediary
- Services business model

Both Harbinger and Sterling Commerce have been on acquisition rampages in the past few years, but the impact on their bottom lines has been somewhat different. Harbinger has shown a net loss for each of the previous three years, whereas Sterling showed a loss only in 1998. Harbinger appears to have jettisoned many of the products after acquiring them. Most of Sterling's acquisitions, other than XcelleNet, have involved adding to its international presence. Sterling has many agreements with other technology providers, whereas Harbinger is less outgoing and is bankrolling an internal R&D group composed of talent from several of its acquisitions.

Alas, although Harbinger's bottom line took a hit from the acquisitions in 1998, the stock market did not perceive Harbinger as playing the same asset aggregation game as Amazon.com and thus did not accord it high valuation.

These companies are starting their trek to the dot com world with large customer bases in hand. The game plan is to retain their customers as they seek to move more of their transactions to Internet-based e-commerce. Both are working to fire up their visions of functional Internet-based ecommerce facilities and services in addition to the EDI services they now offer.

Currently, in the rush to the IP world of the Internet, EDI is akin to the gorilla that gets no respect. In 1998, it is estimated that $5 billion of goods will flow through Web-enabled ecommerce software systems for procurement. In contrast, the Center of Advanced Purchasing Studies estimates that between $260 billion and $300 billion flowed through EDI systems within the largest discrete manufacturing industries (e.g., aerospace, automotive, appliances, electrical products, personal care products machinery, and transportation products) in the 1997/1998 time frame. (See *Tracking the Dollars: Direct Business-to-Business Buying Over the Internet,* IDC#18760, March 1999.)

HARBINGER

Harbinger approaches the world from the perspective of a value-added network provider and a services firm. It has been busily acquiring companies to broaden its skill sets. In 1997 alone, Harbinger acquired SupplyTech, Acquion, Atlas, and Premenos. After making 14 acquisitions in three years, Harbinger admitted it had to take time out in 1998 to digest these as it posted a series of losses. However, in 1Q99, the firm posted earnings of $2.3 million and said its customer base had grown to about 38,500 firms.

The recent key acquisition relating to its ecommerce catalog thrust was the Materials Management Division of MACTEC Inc., which helped grow Harbinger's catalog-related revenue in 1998 to $2.5 million, of which 80% was from services.

Harbinger is taking aim at converting its EDI base as well as adding an IP-oriented customer base by touting its Harbinger.net portal umbrella that includes:

- Pipeline — IP migration
- Knowbility — cataloging capabilities

The company wants Harbinger.net to be a player in trading communities, leveraging its various capabilities in professional services, outsourcing, and connectivity to legacy systems and IP as well as VAN interconnects.

With Harbinger.net, the firm is touting its ability to provide end-to-end integration for a transaction that originates in company A, occurs in company B, and is then recorded in company A. This process involves integration between applications and/or an ERP system, which is no small task. Harbinger also plans to offer support for real-time transactions. Closer to its heritage, Harbinger is touting seamless transaction exchange between IP and non-IP networks.

Harbinger wants to partner with vertical portals in the automotive, heavy manufacturing, petroleum, and utilities industries.

In the Pipeline portion of its offerings, Harbinger's goal is to have 50% of its network traffic be IP based by yearend 1999. At the end of first quarter 1999, 15% of its traffic was IP-based, up from 8% the previous quarter. Harbinger plans to offer the services of a VAN with simplified pricing on the basis of either a per-message or a monthly fee. Harbinger is taking aim at other VAN customers with an offer of a fixed rate for the first year of 50% of the customer's last month's bill.

Harbinger's Knowbility is designed to let users author, edit, review, and synchronize catalog content, find items easily in the catalog, and provide a means of synchronizing internal inventory and supplier descriptions. Harbinger has been selected by Caltex, a joint venture of Chevron Corp. and Texaco Inc. to create an integrated catalog data management solution.

In 1998, professional services and outsourcing practice revenues nearly doubled and accounted for almost one-quarter of the firm's revenue.

STERLING COMMERCE

Sterling Commerce has a different game plan. Initially, rather than providing a trading hub itself, it aims to be the leading global provider of ecommerce solutions for business. Its strategy includes supplying some trading hubs, such as Ariba.com Net and MedOutlook.com with key components. It also creates and operates trading portals for individual companies, such as Owens Corning and its community of building supply buyers, and for industries, such as the National Wholesale Drug Association.

Look for Sterling Commerce to gain an increased presence in the outsourcing arena and to further leverage its international expansion, perhaps with financial software and services. In the meantime, the firm has an impressive list of clients, and some of them are starting to exhibit interesting potential in certain verticals, such as medical. For instance, in addition to the MedOutlook.com deal, Sterling Commerce

provides catalog services to Healthcom, and Sterling Commerce's Connect software infrastructure is used by Independent Physicians Network.

Sterling Commerce is quietly racking up increasing revenue from its Internet-related business. For the first six months of fiscal 1999, Internet-related revenue exceeded $89 million compared with $58.69 million in the year-ago period. The proportion of Internet-related revenue also rose to 30.5% of the firm's total $293.4 million in the first six months of fiscal 1999 compared with 27% of $217.4 million in the same period last year. Sterling Commerce counts revenue from its Connect, Gentran, and Commerce families as Internet related.

Beyond the EDI and translation capabilities between EDI and XML, Sterling Commerce is targeting several arenas:

- Community and extranet management
- Business process integration
- Ecommerce infrastructure
- Outsourcing, a formalized new venture for Sterling, which will be offered worldwide

Some of these business areas could be standalone dot coms, but Sterling Commerce's premise is that offering a single framework spanning Web integration, EDI, and enterprise application integration will lead the whole to be greater than the sum of the parts.

Sterling Commerce built the extranet for Home Depot's suppliers, constructed the catalog for 3M's 24,000 suppliers worldwide, and integrated Buy.com's systems from the Web storefront through the enterprise applications and to the supplier community. Sterling Commerce counts 3M, Onsale Inc., Ariba, and Toyota as customers for its community management offerings. For extranet management services, it lists 3M and Home Depot.

Sterling Commerce has inked a pact to supply Deutsche Telekom's IT unit, DeTeCSM, with its Connect products for the ecommerce infrastructure to better serve Deutsche Telekom companies worldwide.

Business process integration is addressed with products such as Gentran — definitely a non-Net name sitting in a key area of business process integration. Gentran has some interesting new additions. Sterling Commerce is working with Oberon to provide the ecommerce broker (due in September) for applications integration and Web site tools from webMethods. The Gentran suite will include XML integration in June.

The infrastructure category includes communications software and systems management. Key areas of products include Internet Data Exchange and file transfer, Extranet systems management, and remote and mobile. Sterling Commerce acquired XcelleNet, which was a leader in remote solutions.

Despite their lack of the dot com aura, the VANs bear watching as they expand beyond their EDI turf into the wider world of eprocurement.

CORRECTION

EMC ships many disk drives, but in Vol. 34, No. 1, *More Storage Means More Management* (IDC #19081, April 1999), the top line on the scale on Figure 7, EMC Units Sold by Model, 1Q97–4Q98, should read 2,000 rather than 2 million. *The Gray Sheet* regrets the error.

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THE GRAY SHEET

IDC's forecasts of IT opportunities

Vol. 34, No. 2 IDC #19165 May 7, 1999 Molly Upton, Editor

Build a Site and Be Prepared

In This Issue:

Build a Site and Be Prepared 1
Politics as Usual 2
Know Your Goal 3
Simplicity — the Key to Success 4
Think International 5
Don't Forget the Back End! 5
Figure 1: Online Services Offered in Addition to E-Commerce 6
Constant Updates 7
Success Begets 7
Think Glocal 7
Figure 2: Worldwide Distribution of World Wide Web Users and Value of E-Commerce Commitments by Region, 2002 8
Figure 3: U.S. and Non-U.S. E-Commerce Commitments, 1998 and 2002 8
Internet Insights 10
Online Banking Will Surge 10
Customer Retention Will Be Critical 10
Value-Based Comparison Shopping Is on the Rise 10

IDC

As in the movie *Field of Dreams* ("If you build it, they will come"), some corporations have found fortuitously that if they build an e-commerce Web site, business will come to them. However, for most sites, planning and implementing a successful site involve a lot more than luck. As we enter the stage when e-commerce is rapidly becoming a de facto channel, some lessons and words of advice from the pioneers may be instructive to other users as well as the vendor community attempting to provide services and products to e-commerce Web sites.

The issues mentioned by users in discussing their Web site implementation and operation fall into four principal categories:

- Internal politics and mission(s) of the Web site.
- Effective design of the site so that it is appealing and navigable by customers/prospects. The key is to design for speed, simplicity, and international use.
- Effective use of the site to improve customer retention and the lifetime value of the customer. The back-end fulfillment is as important as the front end that garners customer purchases, many said. A major answer is customer service by whatever means available.
- The constant need to continually update and improve the site — and associated expenses.

The costs are sobering. Interviews with 100 early e-commerce Web site executives as part of *Web Sellers Speak: Learning from the Leaders* (IDC #17973, January 1999) found the average initial cost of constructing a site was $5.9 million, and the average ensuing annual costs were nearly as much: $4.3 million. More than half the respondents spent more than $1 million to develop their sites, and 22% said they spent more than $5 million. The development cost includes all IT costs, content development costs, and marketing and promotion.

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The executives who participated in IDC's *Web Sellers Speak* survey ranged in size from Fortune 500 firms to Internet pure-plays. Because of the size of the sample and the fact that subjects were chosen for their leadership, this study is not projectable to the population of online merchants. Slightly more than half the firms identified themselves as consumer-oriented companies while only 8% said they sold strictly to businesses. Nearly 40% said they sell to both consumer and business markets.

The primary motivation for turning to the Web for sales was to acquire new customers. The second most compelling reason was to increase customer loyalty. The executives are aware of the value of customer retention and the personalization tools that may be used via the Web to increase customer loyalty. (See *Customer Relationship Management on the Web: Unlocking E-Commerce Profits,* IDC #18909, April 1999 and *Mass-Customization Marketing: Maximizing Value of Customers,* IDC #17726, December 1998.)

IDC also spoke with additional e-commerce sites whose executives agreed to let their words of advice be quoted. Still other users were interviewed for *Lead Electronic Commerce Users: Getting the Enterprise Network Ready* (IDC #16602, September 1998).

POLITICS AS USUAL

As with any major corporate undertaking, the universal advice was to be sure to have the support of the top executives. This is the same mantra that has been echoed in every major IT evolution, but the slightly unusual twist in the e-commerce effort is that in several instances, the development of the Web site effort was led by marketing or line-of-business organizations. Some involved IT, and others outsourced the entire effort. Regardless of who implemented the site, the breadth and impact of the effort reverberates throughout the company and thus needs endorsement.

One reason senior management support should be involved is this: "Here's your opportunity to reengineer your business for the first time in decades. Don't lose this opportunity. Don't just automate the existing processes; change them," advised Alan Boehme, director of business planning, DHL Worldwide Express.

"It's much more political rather than technical. There's got to be a constant lobbying effort with key executives in the company. Remember that the Internet and electronic commerce is focused on customer needs and not selling product. You'll be more successful

if you remember to focus on your customers rather than selling product," advised Jeremy Jaffe, vice president of e-commerce at Liberty Financial.

"Do not underestimate the challenge of turning up a new channel. E-commerce is a new channel, and there are a lot of challenges. Get management buy-in from the highest level possible. There are a lot of obstacles and you are going to need help getting them out of the way," added Ron Claybo, director of commerce services, PC Connection.

"E-commerce is a very big idea and has the potential to significantly impact the entire corporation. As such, the strategy for e-commerce has to align with the overall corporate strategy at the senior management level. It then needs to permeate the whole corporation. Everybody has to get on board and resources need to be assigned, along with ownership. It is also important to coordinate this entire effort to maximize ROI," observed Dick Callahan, vice president of marketing at Corporate Software and Technology.

One executive noted, "The Web cuts across all processes in the company," so there needs to be a plan to maintain all the various aspects of content.

And if those in the executive suite do not understand and embrace the effort, there's always the fear that they'll waiver in commitment.

One of the biggest obstacles mentioned by one firm was that senior management does not "get it" and will not embrace the technology with the full extent of resources needed. A respondent at another firm mentioned he was still afraid top management would decide to pull the resources from the project.

One respondent was not subtle. Asked what the biggest obstacles to implementation were, he replied, "Politics, politics, politics." He added that internal accounting systems were the trickiest part.

Another emphasized the need for cross-department buy-in as well as well-defined specifications.

However, some respondents admitted that there are times when involvement of multiple departments can slow the process of site implementation. "There is an overabundance of ideas — you need to prioritize with great caution. Cross-pollination of groups and ideas can cause conflicts, and some are difficult to resolve," admitted one veteran.

Know Your Goal

Several respondents emphasized it is vital to know the purpose of an e-commerce site.

"Take the use into account first; keep it simple," advised one retailer.

"You need to really have a good idea in mind of what you're trying to accomplish with it. Be patient and be flexible. You need to stick with it to see if it works," advised David Beasley, vice president of marketing at Briefing.com.

John Chickering, director of direct marketing and consumer relations at Bissell, recommended hiring "people who truly understand and who have had experience in this world of e-commerce. They need to understand what it's like to build a site that's easy to navigate, that is user friendly, worthy of cash transaction products, and works flawlessly."

One retailer learned by doing that "form follows function.... It's very important to know what you want to do" and to understand that a Web site is process oriented, and too much information may detract from enabling customers to proceed through the purchase cycle.

"It is incumbent to stay focused on how you can save your customers time and make them more productive in doing their jobs. Approach e-commerce from the perspective that we are living in the 'age of surplus' where customers can get anything they want at whatever price they want to pay. The only critical resource that they do not have enough of is time," observed Phil Gibson of National Semiconductor.

Technology should be the handmaiden to the site's goals. "It's not about technology, it's about your product," observed one respondent. Sandra Morris, vice president and director of Internet marketing and e-commerce activity at Intel, recommends having "e-commerce driven by somebody who has a business goal rather than just a technology goal. That keeps the focus on delivering value to the customer...."

"It's imperative to make IT a key part of the team," she added. "While it is technically complex, some of what you are doing in e-business can be pretty straightforward. There is no need to overengineer what you want to do," Morris said.

"You can waste a lot of money redoing the site if you do not know what you are doing," admitted one executive.

Simplicity — the Key to Success

"Ease of use is the key to success," observed one veteran.

Others testified to the virtues of simplicity. "Simpler is better," declared one. Another claimed that the simpler the site, the more customers accrue to the site.

"Keep in mind Web site navigation from the customer's standpoint. Consistency throughout the site is very important; don't have different means" of navigation in different sections, added another.

"Make the site simple, easy to use and understand. Eliminate the guesswork that causes error. If possible, obtain e-mail and phone numbers to reach customers in as many ways as possible for quick problem resolution," said one retailer. Another site gave the following advice: "Error-proof, error-proof, error-proof — customers will make the most unimaginable mistakes and special requests."

Several respondents mentioned the need to appeal to the lowest common denominator and to simplify. Also, it's important to be sure pages download quickly — even for the masses that still have a slow connection. Making navigation easier for customers is an ongoing issue at one site. In constructing a site, one cannot "rely on the customer" but rather must make the system "foolproof" and "guide the customer through the process."

Speed is a virtue on the Web. "Design to the lowest common denominator as your customers are dialing in to ISPs from their home computers, not necessarily those high-end machines with huge bandwidth. A good site doesn't have to have Java applets and Flash screens and overbearing graphics. A good editor/good content is far superior to the 'whistles and bells' approach to Web site design," added Ken Evans, Webmaster at Books.com.

"Start small — you don't need to boil the ocean! Show results quickly. Stay customer focused — they should give the priorities," advised Mike Tonnesen of Cisco Systems.

"Instead of trying to include everything, survey the marketplace for what's out there. Build out instead of trying to be all encompassing at initial launch. Keep your requirements slim and build those requirements on an expandable structure rather than trying to encompass everything. If you take too much time to build something with too much functionality, it's guaranteed to be obsolete once you finally launch!" added Robert Linehan, Marriott International Inc.

Think International

The advice from several sites is that one should plan from the start to make the site suitable for international use. "Localization of product information and pricing is key to customers," said one executive. "Be ready to handle international business — it took off very fast and we were not prepared. Do not use American buzzwords — others don't" understand them, said another.

Don't Forget the Back End!

Several e-commerce veterans urged others to recognize that the back-end fulfillment aspect can be as important as the front end that focuses on obtaining the customer's order.

Getting orders is one thing, but fulfilling them consistent with customer expectations is quite another issue. In fact, the back-end aspects such as customer solutions, customer service group, and order fulfillment as well as order tracking must be "as good as if not better than the stuff up front," one retailer advised. Another observed, "When customers order on the Web, they expect the goods immediately," which reinforces the importance of integrating the Web with fulfillment systems.

"Linkage to back-end systems is key!" declared one executive. "Back-end processes need to be as well thought out as the front end — never trust a programmer," stated another, adding that one needs to consider integration of the Web site to existing systems.

To complicate matters, "the standards of service are continually increasing," added one merchant.

Customer service is at least as important on the Web as in real life. "Emphasize customer service," said Evans of Books.com. "Do whatever it takes to make the customer happy (e.g., fast turnaround response, large customer service staff). If the customer is happy, s/he will tell their friends. Once you get going, listen to your customers and respond to their needs and wants. Your success depends on what they're talking about. Even if you get a critical response from a customer, if you respond quickly and address their needs, you can end up with the customer having a positive experience and returning.

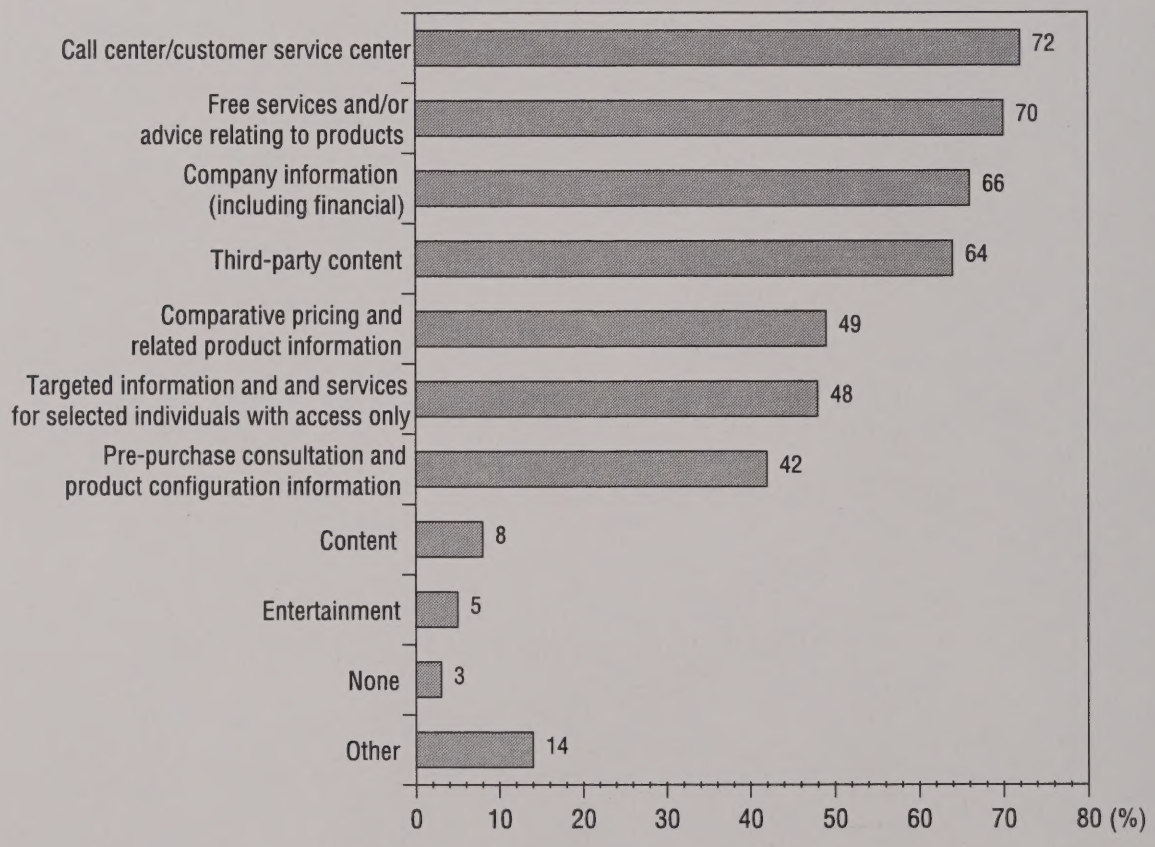
Word of mouth is still a great communication vehicle," he continued. "Don't underestimate the power of word of mouth, for praise and disdain. The Internet is all about communication."

"You have to have good customer service," said one retailer. One site tries to obtain e-mail and phone numbers in order to reach the customer in as many ways as possible for quick problem resolution.

In fact, the Web Seller survey respondents recognize a value in offering additional online services to their customers. Nearly three-quarters (72%) operate a call center or customer service center online (see Figure 1).

FIGURE 1
ONLINE SERVICES OFFERED IN ADDITION TO E-COMMERCE

Q4. What services does your Web site offer besides commerce?



N = 98
Source: International Data Corporation, 1999

Constant Updates

Many respondents advised others to be aware of the constant need for improvement. Success begets more work.

"This is not like a print vehicle — it's never done!" exclaimed one respondent.

"Implementation never stops. We are building a totally new way of doing business every day. Growth rate dictates constant evolution, including the need to add necessary back-end and accompanying technical and sales staff."

As the competition and the audience become more sophisticated, the bar gets raised for better sites, especially when one realizes the site is an extension of one's brand. "In the beginning, like in television, anything you put up on the screen is a marvel. However, once people get used to it, you need to become ever more sophisticated. You must appear very professional in your approach in order to attract people and raise the level of credibility. You've got to have good quality talent and production people working for you, especially if you're a national brand," observed John Chickering of Bissell.

Success Begets ...

One successful site observed, "The initial premise of 'build it and they will come' is true. Constant improvements are required. Don't ever rest — you'll be passed. Competitive pressures are so much shorter in cycle time."

Another added that one of the biggest challenges is success because "you'd better be willing to pay to improve your infrastructure!"

Some respondents noted that their success — and expenses — exceeded expectations.

"Do your homework and then prepare for success. What if you got 10 times more orders than your wildest dream? If you don't plan for that, none of those customers will return to you. What if you got 10 times more hate mail about your latest gizmo to hit the stores? If you don't have the processes to respond quickly and to remedy the problem, those customers won't return either, and they'll tell the world in a newsgroup," advised IS professionals at MCI.

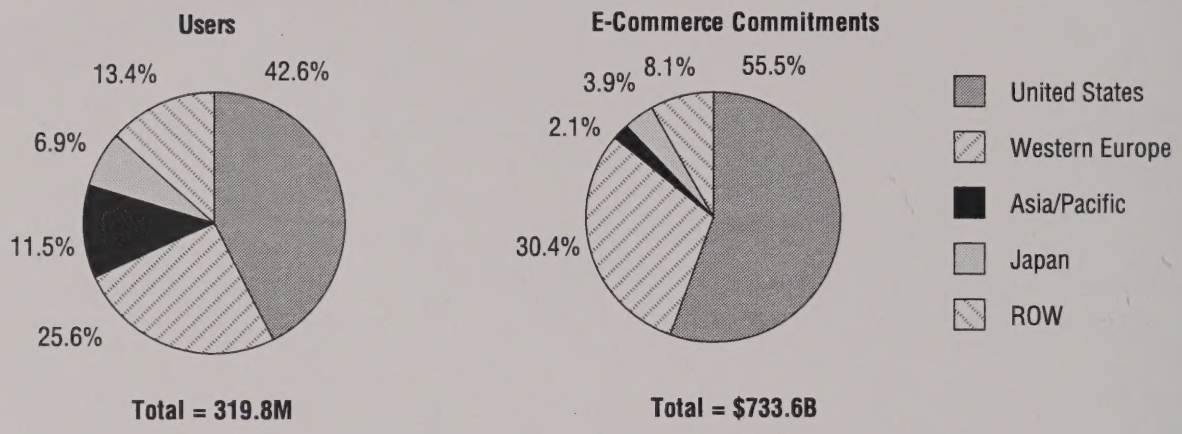
Think Glocal

As the Internet tsunami rapidly overwhelms national boundaries in the e-commerce realm, site operators are realizing they need to think globally and act locally, hence the term "glocal." Figures 2 and 3 illustrate the shifting dynamics in the Internet in terms of users and buying power.

Tools are emerging in the marketplace designed to assist Web sites in presenting the appropriate information for language-specific items such as date forms, and country-specific items such as currencies, regulatory guidelines, and taxes.

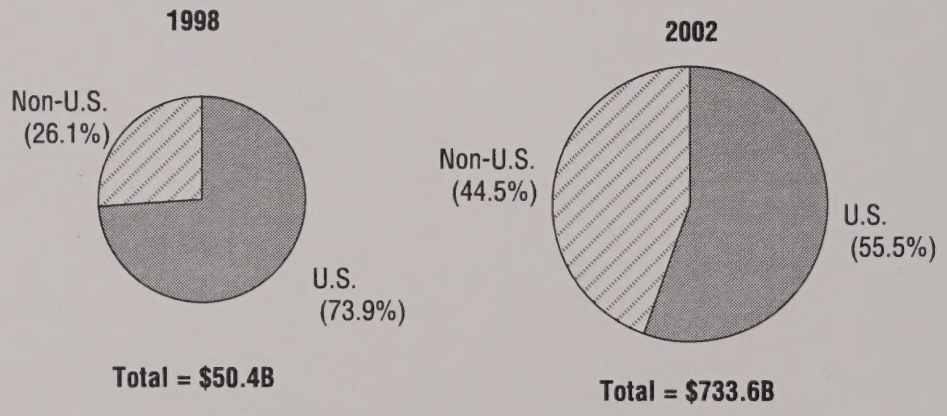
Web sites may find they need a combination of solutions, and it is also possible that there will be consolidation within the marketplace.

FIGURE 2
WORLDWIDE DISTRIBUTION OF WORLD WIDE WEB USERS AND VALUE OF E-COMMERCE COMMITMENTS, 1998 AND 2002



Source: International Data Corporation, 1999

FIGURE 3
U.S. AND NON-U.S. E-COMMERCE COMMITMENTS, 1998 AND 2002



Source: International Data Corporation, 1999

One of the more interesting is TraceWare from Digital Island **(www.digisle.net)**. TraceWare is essentially a database of a global Internet atlas that companies can host in order to identify the country of origin for any IP address and thereby provide country-specific information such as the date format, price and/or currency, taxes, and regulatory guidelines for that inquiry. The database can be integrated into e-business applications. Digital Island claims 96–97% accuracy in identifying the country of origin and provides monthly database updates on a subscription basis.

At least two global IT companies have told *The Gray Sheet* that one of their biggest issues in rolling out e-commerce on a global basis is presenting the appropriate prices. Visions ensue of folks trucking printers over the Pyrenees to take advantage of price variations possibly compounded by currency fluctuations between adjacent countries, for example.

TraceWare can also be useful in advertising audits by associating a country with the source or destination of any Web-based traffic. TraceWare can be used to restrict distribution agreements and marketing policies to designated territories.

Global Sight Corp. **(www.globalsight.com)** offers another approach of a workflow tool designed to enable a globally distributed team to manage the process of developing and maintaining multilingual Web sites. Global Sight's Ambassador runs on Oracle and Sybase and handles static Web pages as well as text embedded in Javascript.

In addition to the Web-enabled workflow system, other features include Page Extractor, which separates HTML code from content, creating a multilingual database and a single repository of code. One template of code can be used for multiple languages, Global Sight said.

There's also a WYSIWYG environment for editing and translating content that eliminates the need for HTML expertise in working with Web content.

Two of Global Sight's customers are Cisco Systems and GE Information Services. Global Sight investors include Draper Fisher Jurvetson.

Idiom Technologies **(www.idiomtech.com)** offers yet another piece of the puzzle. Through the use of XML tags, Idiom's WorldServer product facilitates maintaining multiple language Web sites while managing a single original-language site. Idiom is funded by Graylock and others.

Perhaps the venture capitalists of Global Sight and Idiom should chat because it seems to *The Gray Sheet* that the products are complementary.

Internet Insights

Occasionally, *The Gray Sheet* presents an array of topical thoughts ruminating in the minds of IDC analysts.

Online Banking Will Surge

Over 31% of all U.S. households will bank online by 2003, up from less than 7% in 1998. In the forthcoming bulletin Online Banking Forecast, 1998–2003, IDC forecasts the surging consumer acceptance of banking over the Internet.

Banks have shed the proprietary and unreliable software that had been symbolic of most PC banking services and are rapidly deploying Web-based services. Online banking is viewed by banks as a key competitive advantage; therefore, the number of banks and credit unions offering such services will increase tenfold over the next two years. Although most banks begin by offering basic account access, the key to the vault lies in the form of bill payment and personalized financial services that will ensure customer retention.

— Paul Johnson

Customer Retention Will Be Critical

As the cost to acquire customers continues to skyrocket, Web merchants are realizing that customer retention is just as important as customer acquisition. Emerging Internet technologies that facilitate the management of customer relationships are becoming very popular. IDC believes that automated customer self-service, data-mining, and recommendation engines will become increasingly critical as customer relationship management strategies evolve. A strong commitment to customer retention will be key for successful e-commerce sites.

— Juliana Nelson

Value-Based Comparison Shopping Is on the Rise

Recently, Inktomi announced the acquisition of online merchandising software developer Impulse Buy Network (www.impulsebuy.com). Inktomi will incorporate Impulse Buy's technology into its existing shopping engine, which is currently licensed to 20 portals and destination sites covering over 350 merchants.

The announcement is part of a broader trend toward helping merchants target promotional programs, such as special limited-time offers, to online users who are more likely to buy, thus raising the likelihood of "capturing" a customer. IDC expects to see increased activity surrounding "smarter" comparison shopping services as the portals and top merchants roll out these value-added services. Other players to watch include Frictionless Commerce **(www.frictionless.com).**

— Jill Frankle

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